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Συρακουσαι Σικελιας 287 - 212 π.Χ.

ARCHIMEDES
Syracuse, Sicily
287 BC - 212 BC

1

Πολλων δε και καλων ευρετης = ο Αρχιμηδης γογονως λεγεται των φιλων και των συγγενων, οπως αυτου μετα την τελευτην επιστησωσι τω ταφω τον περιλαμβανοντα την σφαιραν εντος κυλινδρον, επιγραψαντες τον λογον της υπεροχης του περιεχοντος στερεου προς το περιεχομενον.

Πλουταρχος, Μαρκελλος, XVII

Excerpt from Plutarch's Marcellus.

2

Ex eadem urbe humilem homunculum a pulvere et radio excitabo, qui multis annis post fuit, Archimedem. Cuius ego quaestor ignoratum ab Syracusanis, cum esse omnino negarant, saeptum undique et vestitum vepribus et

dumetis indigavi sepulcrum. Tenedam enim quosdam senariolos, quos in eius monumento esse inscriptos acceperam, qui declarabant in summo sepulcro sphaeram esse positam cum cylindro. Ego autem cum omnia conlustrarem oculis - est enim ad portas Agragatinas magna frequentia sepulcrorum - animum adverti columellam non multum e dumis eminentem, in qua inerat sphaerae figura et cylindri. Atque ego statim Syracusanis - erant autem principes mecum - dixi me illud ipsud arbitrari esse, quod quaererem. Inmissi cum falcibus multi purgarunt et aperuerunt locum. Quo cum patefanctus esset aditus, ad adversam basim accessimus. Apparebat epigramma exesis posterioribus partibus versiculorum dimidiatum fere. Ita nobilissima Graeciae civitas, quondam vero etiam doctissima, sui civis unius acutissimi monumentum ignorasset, nisi ab homine Arpinate didicisset.

Cicero, Tusculan Disputations, Bk. V, 64-65.

In: Clagget III, pp. 1337-1338

Note: English translation by C.D. Yonge (London, 1891) follows.

3

Archimedes, the greatest mathematician the world has yet seen, excepting Newton only, was born in Syracuse about 287 B.C.
(.....)
The great mathematician, in his favorite work, The Sphere and Cylinder, proved that the surface of a sphere is to the entire surface of the circumscribed cylinder, including its bases, as 2 to 3; and their volumes are in the same ratio. Archimedes thought so much of this theorem, and of those leading up to it, that he expressed a wish that the device on his tombstone should be a sphere inscribed in a cylinder. Marcellus, let it be remembered to his honor, buried the philosopher with honors, and on a splendid tomb he executed the device of the sphere and cylinder.
Cicero gives (Tusc. Disput., V. 23) an account of the manner in which he discovered this tomb in 75 B.C. We close the sketch with C.D. Yonge's translation of Cicero's charming narrative:
"Shall I not, then, prefer the life of Plato and Archytas, manifestly wise and learned men, to his (Dionysius), than which nothing can possibly be more horrid, or miserable, or detestable?
"I will present you with an humble and obscure mathematician of the same city, called Archimedes, who lived many years after: whose tomb, overgrown with shrubs and briers, I in my quaestorship discovered, when the Syracusans knew nothing of it, and even denied that there was any such thing remaining; for I remembered some verses which I had been informed were engraved on his monument, and these set forth that on the top of the

tomb there was placed a sphere with a cylinder. When I had carefully examined all the monuments (for there are a great many tombs at the gate Achradmae), I observed a small column standing out a little above the briers, with the figure of a sphere and cylinder upon it; whereupon I immediately said to the Syracusans-for there were some of their principal men with me there- that I imagined that was what I was inquiring for. Several men, being sent with scythes, cleared the way, and made an opening for us. When wew could get at it, and were come near to the front of the pedestral, I found the inscription, though the latter parts of all the verses were effaced almost half way.
"Thus one of the noblest cities of Greece, and one which at one time likewise had been very celebrated for learning, had known nothing of the monument of its greatest genius, if it had not been discovered to them a native of Arpinum".

Rupert, pp. 100-107

Note: Yonge's translation see also in: Smith I, pp. 115 - 116

4

Archimedes was born in 287 B.C., being according to some authorities a relative of Hiero's family. He must certainly be ranked with the greatest mathematicians and mechanics that ever lived , and his natural gifts developed to the proportions of genius in the congenial atmosphere of Syracuse. [p. 238]

His discovery of the relation between a cylinder, of which the height equals the diameter, to the greatest sphere it can contain, has remained for all time one of the greatest mathematical feats accomplished by the human mind. [p. 240]

Archimedes perished, and many others, but Marcellus buried the great engineer with honour and ceremony, and to this day imaginative persons point out a tomb (: reputed) which they call his, but which is not, for Cicero has described the real one most minutely, and how he found it overgrown with brambles, but knew it by the sphere and cylinder, and by the half of the inscription that remained, and of which he possessed a complete copy. [p. 282]
It was then = the latter part of the years 99 - 73 B.C. that he =Cicero wandered in the neighbourhood of Syracuse, accompanied by a flattering court of distinguished Syracusans, who were not anxious to show him the tomb of Archimedes overgrown with brambles, because the great engineer had been an enemy to the Romans, and were quite willing to let the mild-

mannered, book-loving quaestor give himself all the credit of the discovery. [p. 320]

If Cicero found the tomb of Archimedes hidden in a wilderness of brambles, it needs no lively fancy to imagine what Syracuse had become in the days of Odoacer the Goth. [p. 374]

Crawford I, pp. 238 - 374

5

Archimedes proved that the volume of a sphere is two-thirds the volume of a circumscribed cylinder. This he considered his most significant accomplishments, requesting that a representation of a cylinder circumscribing a sphere be inscribed on his tomb.

http://www-groups.dcs.st-and.ac.uk/~history/Mathematicians/Archimedes.html

Other References

Ball 2, p. 66
B-J-B, p. 196
Kline 1, pp.156 - 157
Kline 2, p. 86
Wells-G, pp. 236 - 237

Internet Site:
http://www.mcs.drexel.edu/~crorres/Archimedes/contents.html

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